

WHAT IS CLAIMED IS:

1. A method for beam steering, comprising:
measuring received signal characteristics of the
beam;
providing feedback based on the signal
characteristics; and
adapting the beam based on the feedback
information.
2. The method of Claim 1, further comprising
using a one-bit punctured on a reverse link channel as
feedback to indicate quality of a current signal compared
to a previous signal.
3. The method of Claim 1, further comprising
transmitting relative strength information as part of the
feedback information.
4. The method of Claim 1, further comprising
transmitting the number of multipaths as part of the
feedback information.
5. The method of Claim 1, further comprising
transmitting the feedback information on a pre-determined
schedule.
6. The method of Claim 1, further comprising
transmitting the feedback information when requested.

7. The method of Claim 1, further comprising steering the beam to ensure a strong signal strength.

8. A method for processing signal characteristic information comprising:

receiving a plurality of multipaths;

measuring a strength of each of the plurality of multipaths;

providing feedback to adapt a beam based on the feedback information.

9. The method of Claim 8, further comprising measuring the number of multipaths that can be demodulated in parallel.

10. The method of Claim 8, further comprising measuring a relative phase offset of each multipath.

11. The method of Claim 8, further comprising determining a change in conditions before providing feedback.

12. The method of Claim 8, further comprising providing feedback on demand.

13. The method of Claim 8, further comprising providing feedback on a periodic basis.

14. A method of determining a beam transmission path comprising:

transmitting a beam sweep through a sector;

transmitting a beam sweep through a plurality of sectors;

determining signal conditions for the beam sweep in each of the plurality of sectors;

selecting a preferred sector based on the signal condition;

dividing the preferred sector into a plurality of sub-sectors;

transmitting a beam sweep through the plurality of sub-sectors;

determining signal conditions for the beam sweep in each of the plurality of sub-sectors; and

selecting a preferred sub-sector based on the signal condition.

22. The method of Claim 21, further comprising transmitting the signal condition via a feedback path.

23. The method of Claim 21, further comprising defining the signal condition as signal strength.

24. The method of Claim 21, further comprising further dividing the sub-sectors to obtain a narrower beam width.

25. A wireless communication system comprising:
a base station which transmits a signal;

one or more mobile stations which receive the transmitted signal and measures one or more characteristics of the received signal and provide feedback based on the one or more signal characteristics, wherein the base station adapts the beam based on the feedback.

26. The wireless communication system of Claim 25, wherein the feedback is a one-bit punctured on a reverse link channel which indicates a quality of a current signal compared to a previous signal.

27. The wireless communication system of Claim 25, wherein the feedback is a one-bit punctured on a reverse link channel which indicates whether an earliest received signal is the strongest.

28. The wireless communication system of Claim 25, wherein a relative strength indicator is included as the one or more signal characteristics.

29. The wireless communication system of Claim 25, wherein a number of multipaths is provided as part of the feedback information.

30. The wireless communication system of Claim 25, wherein the feedback information is transmitted on a pre-determined schedule.

31. The wireless communication system of Claim 25, wherein the feedback information is transmitted when requested.

32. The wireless communication system of Claim 25, wherein the base station steers the beam to ensure a strong signal strength.